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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/748,384	12/27/2000	Akira Oosawa	Q61247	3796

7590

09/12/2003

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EXAMINER

TABATABAI, ABOLFAZL

ART UNIT

PAPER NUMBER

2625

DATE MAILED: 09/12/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/748,384

Applicant(s)

OOSAWA, AKIRA

Examiner

Abolfazl Tabatabai

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3, 7-10, 13-22, 26, 28, 32-35 and 38-48 are rejected under 35

U.S.C. 102(e) as being anticipated by Nachtomy et al (U S 6,095,976).

Regarding claim 1, Nachtomy discloses an image display method comprising the steps of:

performing interimage processing on two original images (Column 25, lines 51-59) constituting each of two or more pairs of original images selected from three or more original images taken of the same subject, which become objects of comparison and reading (Column 5, lines 44-54 and column 8, lines 2-20); and,

arranging, or witching in sequence, and displaying two or more interimage processed images generated by said interimage processing (Column 7, lines 57-64 and column 25, lines 51-59).

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Regarding claim 3, Nachtomy discloses the image display method wherein said two or more interimage-processed images are switched in sequence in a manner in which display positions of structurally characteristic parts of said subject in said two or more interimage-processed images are registered (Column 7, lines 44-56).

Regarding claim 7, Nachtomy discloses the image display method wherein one of said two original images is selected as a reference image so that each of said interimage-processed images is generated based on said image (Column 7, lines 57-64).

Claims 8-10 are similarly analyzed as claim 7.

Regarding claim 13, Nachtomy discloses the image display method wherein said interimage processing is the process of performing subtraction between corresponding pixels in said two original images (Column 11, lines 58-65).

Claims 14 and 15 are similarly analyzed as claim 13.

Regarding claim 16, Nachtomy discloses The image display method wherein said interimage processing is the process of registering positions of structural elements of said two original images (Column 4, lines 20-31 and column 7, lines 44-47).

Claims 17 and 18 are similarly analyzed as claim 16.

Regarding claim 19, Nachtomy discloses the image display method wherein, in said interimage processing the process of registering positions of structural elements of said two original images is first. Performed, and then the

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process of performing subtraction between corresponding pixels in said two original images is performed (Column 11, lines 58-66).

Claims 20 and 21 are similarly analyzed as claim 19.

Claim 22, is similarly analyzed as claim 1.

Claim 26, is similarly analyzed as claim 1.

Claim 28, is similarly analyzed as claim 3.

Claims 32-35 are similarly analyzed as claim 7.

Claims 38-40 are similarly analyzed as claim 13.

Claims 41,42 and 43 are similarly analyzed as claim 16.

Claims 44,45 and 46 are similarly analyzed as claim 19.

Claim 47, is similarly analyzed as claim 22.

Claim 48, is similarly analyzed as claim 23.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 4-6, 11,12, 23-25, 29-32, 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nachtomy et al (UI S 6,095,976) as applied to claims 1 and 26 above, and further in view of Barni et al (U S 5,841,830).

Regarding claim 2, Nachtomy is silent about the image display method wherein said two or more interimage-processed images are arranged in a manner in which display positions of structurally characteristic parts of said subject in said two or more interimage-processed images are aligned.

On the other hand Barni teaches: the image display method wherein said two or more interimage-processed images are arranged in a manner in which display positions of structurally characteristic parts of said subject in said two or more interimage-processed images are aligned (Column 6, lines 29-45).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use alignment as taught by Barni because it provides images which are generated in real time; resides in its low radiation doses and it is compatible with images from x-ray fluoroscopy, computed tomography, and ultrasound imaging techniques. Also image alignment processor could compares the position of markers in the two images and if the image alignment algorithm finds that the markers are out of alignment, it will adjusts the addresses read by the memory.

Regarding claim 4, Barni discloses the image display method wherein said three or more original images are taken in sequence in a time series manner(Column 6, lines 65-67 and column 7, lines 1-5).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use time series manner as taught by Barni because it provides images which are generated in real time; resides in its low radiation

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doses and it is compatible with images from x-ray fluoroscopy, computed tomography, and ultrasound imaging techniques.

Regarding claim 11, Barni discloses the image display method wherein said three or more original images are acquired in sequence in a time series manner, and said reference image is the newest or oldest in a time series (Column 1, lines 34-39).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use reference image is the newest or oldest in a time series as taught by Barni because it provides images which are generated in real time; resides in its low radiation doses and it is compatible with images from x-ray fluoroscopy, computed tomography, and ultrasound imaging techniques.

Regarding claim 11, Barni discloses the image display method wherein each of said interimage-processed images is generated by performing said interimage processing on two of said three or more original images which are adjacent in a time series (Column 2, lines 47-53).

Regarding claim 23, Barni discloses the image display method wherein said three or more images are medical radiation images (Column 6, lines 29-46).

Claims 24 and 25 are similarly analyzed as claim 12.

Claim 27, is similarly analyzed as claim 2.

Claims 29-31, 36-37 are similarly analyzed as claim 4.

Other prior art Cited

5. The prior art made of record and not relied upon is considered pertinent

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to applicant's disclosure.

Taniguchi (U S 5,578,823) discloses a transmission electron microscope and method of observing element distribution by using the same.

Fujii et al (U S 5,594,768) disclose a laminograph and inspection and repair device using the same

Ishihara et al (U S 6,110,123) disclose a region of interest setting apparatus for respiration monitoring and a respiration monitoring system.

Yonekawa (U S 6,504,897 B1) disclose a X-ray image radiographing system.

Contact Information

6. any inquiry concerning this communication or earlier communications from the Examiner should be directed to ABOLFAZL TABATABAI whose telephone number is (703) 306-5917.

The examiner can normally be reached on Monday through Thursday from 9:30 a.m. to 7:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, Bhavesh Mehta M, can be reached at (703) 308-5246.

Any response to this action should be mailed to:

Assistant Commissioner for Patents
Washington, D.C. 20231

or faxed to:

(703) 872-9306 (for **formal** communications; please mark

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"EXPEDITED PROCEDURE")

Hand delivered responses should be brought to Crystal Park II, 2121

Crystal Drive, Arlington, VA. Sixth Floor (Receptionist).

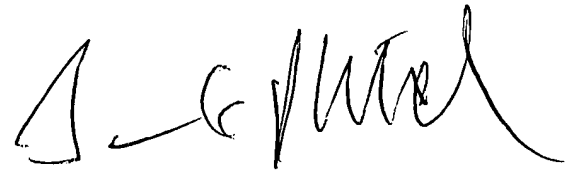
Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 305-4750

Abolfazl Tabatabai

Patent Examiner

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September 3, 2003

A handwritten signature in black ink, appearing to read 'Jayanti K. Patel', written in a cursive style.

Jayanti K. Patel
Primary Examiner